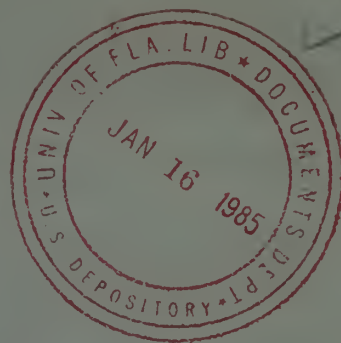
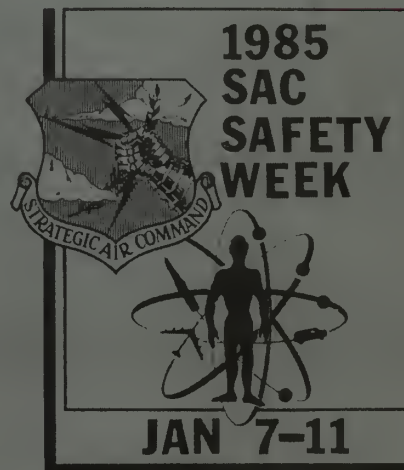


Combat Crew

Strategic Air Command



JANUARY 1985
★★★★★



Combat Crew

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ON OUR COVER

January 7-11 is SAC Safety Week. Combat Crew heralds the New Year with a firm commitment to reduce mishaps in all categories. Have a safe and Happy New Year.

SACRP 127-1 VOL. XXXV NO. 1 JANUARY 1985

COMBAT CREW is an internal publication of the Strategic Air Command with the primary purpose of promoting safety. The contents of this magazine are informative and not to be considered as directive in nature. Facts, testimony and conclusions of all mishaps printed herein may not be construed as inerration under Article 31 of the Uniform Code of Military Justice. All names, dates and places used in conjunction with mishap stories are fictitious. Written permission must be obtained from Headquarters, Strategic Air Command before any material may be reprinted by other than U.S. Air Force organizations. Use of funds for printing this publication has been approved by Hq. USAF, Distribution FX, controlled by IGFE SAC units submit distribution requests through local PDO. Reader to copy ratio 10:1. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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SAFETY

For three and one half years now, I have been taking the Strategic Air Command message to audiences across America — to congressional committees, the Defense Resources Board, foreign affairs councils, and groups of doctors, educators, business people and others.

Over the entire period, and before each audience, I have stressed consistently the command's priorities.

- Taking care of our people so that they continue to see the Air Force and Strategic Air Command as an attractive career option — a good place to live, work and raise a family.

- Taking the steps necessary to ensure that the readiness, effectiveness and sustainability of our inventory systems are adequate to meet the challenges of deterrence.

- Bringing on line new systems — the B-1B, the PEACEKEEPER, the Air-Launched Cruise Missile — to preserve a strategic balance and enhance stability.

Consistency has paid off. With the support of the administration, the congress, and the American people, we have made substantial progress in all three areas.

But when I speak to you, the men and women of Strategic Air Command, another priority is superimposed over people, readiness and modernization — the priority of safety. Good safety practices, at home, at work or on the road, can confirm and preserve the progress we have made. Bad safety practices can undermine that progress and lead to personal tragedy as well.

THE OVERARCHING PRIORITY

The key to safety is consciousness. Rare indeed is the accident caused by deliberate choice of a hazardous course over a more prudent one. Much more common is the failure to recognize and take into account the inherent potential for danger in many of the things we do every day. Fortunately for all of us, such laxness does not often exact a heavy price. But those instances in which it does should serve as a stark reminder that we cannot escape indefinitely the consequences of carelessness.

1984 has been a good year, with improvement in virtually every aspect of our safety program. The objective which we should all set for ourselves is an even safer 1985. That requires an increased safety-consciousness in each of us — the ingrained instinct to identify and correct hazardous situations and avoid hazardous behavior.

To promote the kind of thinking that leads to a safe environment, Strategic Air Command will observe three special SAC Safety Weeks during the coming year. I have designated the period 7-11 January as the first such week, with the stress on flight, ICBM, industrial and home safety.

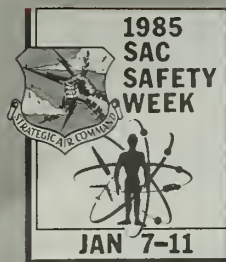
I encourage commanders at every level to emphasize the importance of safety to effective mission accomplishment. And I encourage everyone to be alert to safety considerations in their daily activities. One individual injured or killed, one aircraft or missile damaged or lost, is one too many. Especially so if it could have been prevented.



General B. L. DAVIS
Commander in Chief Strategic Air Command

The three SAC Safety Weeks will serve to reinforce safety consciousness. But we will meet our goals for a safer 1985 only if our level of consciousness is consistently high — if safety is a central consideration in everything we do, all day, every day. That is the thought behind this year's safety theme: **"Stay Alive in '85 — Keep Safety First."**

If we all remember that theme and make it part of our daily lives, 1985 will be a better and safer year for you, for me, and for the command. ★★★★★



A Superior Crew

Capt Arvil V. Taylor
HQ SAC/IGFF

"A superior (aircrew) may be defined as one that stays out of trouble by using (its) superior judgment to avoid situations which might require the use of (its) superior skill." Anon

The first time I recall reading this statement I was a young lieutenant being introduced to all the wonders of Southeast Asia. I was so impressed with the phrase's wisdom I immediately adopted it as an axiom upon which to base my career as an aircrew member. This was probably one of the better decisions I have ever made because the guidance has served me well. From the terror filled moments of the Linebacker operations to equally challenging days as an instructor, this advice has helped me keep the proper perspective and establish the correct priorities. I believe this statement captures the essence of being a superior pilot, or crewmember, and also expresses the critical elements of flight safety. If you allow me a few minutes to share my thoughts, I think you will agree.

"... stays out of trouble by using superior judgment ..."

Dumb mistakes have cost the Air Force millions of dollars in destroyed or damaged aircraft and incalculable loss of human resources. My files are full of mishap reports which describe astonishing decisions by Air Force personnel, decisions which either initiated or sustained the mishap sequence. Pilots have forgotten to lower the landing gear and are annoyed by the aggravating background noise.

Maintenance crews have raised the gear handle on the ground and are surprised when the nose of the aircraft rapidly descends upon terra firma.

Before you are too critical of individuals who make these apparently foolish mistakes, I must remind you this group includes some of our most experienced and capable people.

High time instructors, Stan/Eval evaluators and training flight personnel are among those whose poor judgment has led to disaster. Obviously, superior judgment is not always used.

Those who regularly strap an aircraft to their body must be able to make sound decisions and exercise good judgment. I can think of few professions which require the same quick and accurate reaction to a rapidly changing and sometimes hostile environment. Sound complicated, doesn't it? But this is exactly what an aircrew must do on a daily basis during a training mission, while on alert or when completing a higher headquarters tasking. The world is full of people who can pilot or navigate an aircraft or drop bombs when the groundspeed is zero and the wind is calm. The real challenge comes when these same tasks must be accomplished at night, in the STRC, at TA altitude, while doing 350 KIAS and when the wind is constantly changing directions. A mistake, an error in judgment under these conditions can and has ruined a crew's whole day.

Why do highly trained professionals make critical mistakes in a known and hazardous environment? In an article in the January 1980 issue of *Aerospace Safety*, Roger Crewse, AF-ISC, argued that mishaps caused by aircrew error usually occur when the crew "overcommits or is overcommitted by the mission (they) are

trying to accomplish based upon their training, knowledge and proficiency." This overcommitment can be the result of the desire to excel, a desire which disregards personal or aircraft capabilities. A subtle breakdown in discipline can appear, a breakdown which then can result in rules being stretched, or limitations being pushed, or procedures being modified in order to get "the bombs on target." The desire to excel combined with the decay of discipline results in a crew deciding to press on, unaware of the magnitude of the hazards or the ramifications of continuing the mission. All too often crewmembers make this fatal decision under the false impression they are demonstrating the aggressiveness they think commanders want and look for in their top crews. Nothing could be further from the truth. The bottom line is: This desire to excel, combined with the misconception that the "extra effort" is expected and condoned by supervisors, can be counterproductive, if not disastrous. Instead of enhancing mission efficiency and demonstrating exceptional airmanship, the crew is actually reflecting very poor judgment, jeopardizing irreplaceable resources.

Good crews know their capabilities and are acutely aware that exceeding those capabilities does not enhance their reputation or impress their commander. They know their charter — to accomplish the mission without exposing their aircraft or themselves to unacceptable risk. They know the mission, the restrictions of their equipment, and personal limitations, which also enables them to know when to call it a day. They are not ashamed or embarrassed when they encounter a situation they cannot overcome because they know they

"A good crew, a safe crew, uses mission planning day to prepare for the worst possible conditions. They develop a strategy, a plan of attack for dealing with problems before they get airborne."

will be respected for their decision to try again tomorrow. Some crews never reach this level of superiority and are unable to recognize the fine line between aggressiveness and foolishness. Flying TA in the mountains with marginal equipment in deteriorating weather adds nothing to combat capability but dramatically increases the potential for a Class A flight mishap. It is also very foolish and indicates a severe lack of good judgment.

... situations which might require the use of (its) superior skill."

During pilot training I remember overhearing a conversation between a wizened old instructor pilot and his eager young student. The IP was explaining the rigorous and exacting curriculum was necessary because flying was primarily hours and hours of boredom interspersed with moments of gut wrenching fear. A few years and many moments of fear later, I must agree with this rather graphic description of flying. Sometimes you have to use your superior skill, so you had better be ready when Murphy strikes. I still vividly recall periods where I had to use all of my skill to recover a cantankerous aircraft which I thought was trying to fulfill an irrational death wish.

Long hours of Dash One study and review of associated directives, the agony of becoming intimately familiar with aircraft systems or committing bold print to memory, detailed target study and comprehensive mission planning, all of these are necessary to properly prepare for the unexpected. Pilots spend as much time as they can beg, borrow or steal in the traffic pattern practicing the emergency procedures associated with the landing or takeoff phase of flight so they will be ready when they have to do it for real. I used to fly with a crewmember who invariably complained when I conducted a "pilot pro" sortie. One of his famous lines

was, "Hey, pilot, do you practice backing in and out of your driveway?" If it was as hazardous as landing a B-52 with two outboard engines on the same side inoperative when the ceiling is low and the visibility poor, you can bet I would.

A good crew, a safe crew, uses mission planning day to prepare for the worst possible conditions. They develop a strategy, a plan of attack for dealing with problems before they get airborne. They know exactly what each and every person on the aircraft will be doing if the aircraft experiences catastrophic engine failure after SI speed. An unexpected thunderstorm over the IP should not precipitate a mad scramble resulting in mass confusion; rather it should initiate a coordinated and orderly abort of the low level route. The good crews, the safe crews, are confident they can handle their tasking because they are prepared for the unexpected.

By being prepared you may not have to use exceptional skill to overcome a dangerous situation. Each and every task has been briefed, discussed and evaluated. Crewmembers have reviewed their actions; they

know what they are expected to do; and they are ready to take appropriate action. This approach to flying reduces to a minimum the number of situations which could possibly require the skill of superior aviators to safely recover the aircraft.

As we begin 1985, I hope each and every person in SAC who wears wings will take the time to think about their responsibility to themselves, their commander and their country, to safely accomplish all assigned missions. Safety and mission accomplishment cannot be separated, nor even be discussed independently because the only way the Air Force can accomplish its mission as effectively and efficiently as possible is if the mission is accomplished safely. The only way you, as an aircrew member, can contribute to this objective is by becoming as knowledgeable and as proficient as humanly possible. In other words, you must strive to become a superior performer, to become a superior crewmember. The superior aircrew gets the job done without exposing itself or its equipment to unacceptable risk. This is what safety is all about.



Stay alive in 85 — Keep Safety First!

Do You Want to be a Survivor?



SSgt Eric Riker
97 AREFS, Blytheville AFB

Those of us who have made the decision to make Air Force flying our profession have all attended Combat Crew Survival Training. We also attend our quarterly or semiannual Life Support Training and then go about our lives as a "crew dawg." But what do we really do with that survival information? Are we really prepared for that day when we may have an in-flight emergency, one that might result in a crash landing, ditching or bailout? After the copilot has sounded the alarm bell, will you really know what to do? Have you thought about a crew survival plan? Haven't given it much thought? Is it because you only fly routine training sorties, in familiar, populated surroundings? Perhaps it's because we're in peacetime conditions, right! Sound familiar? Read on!

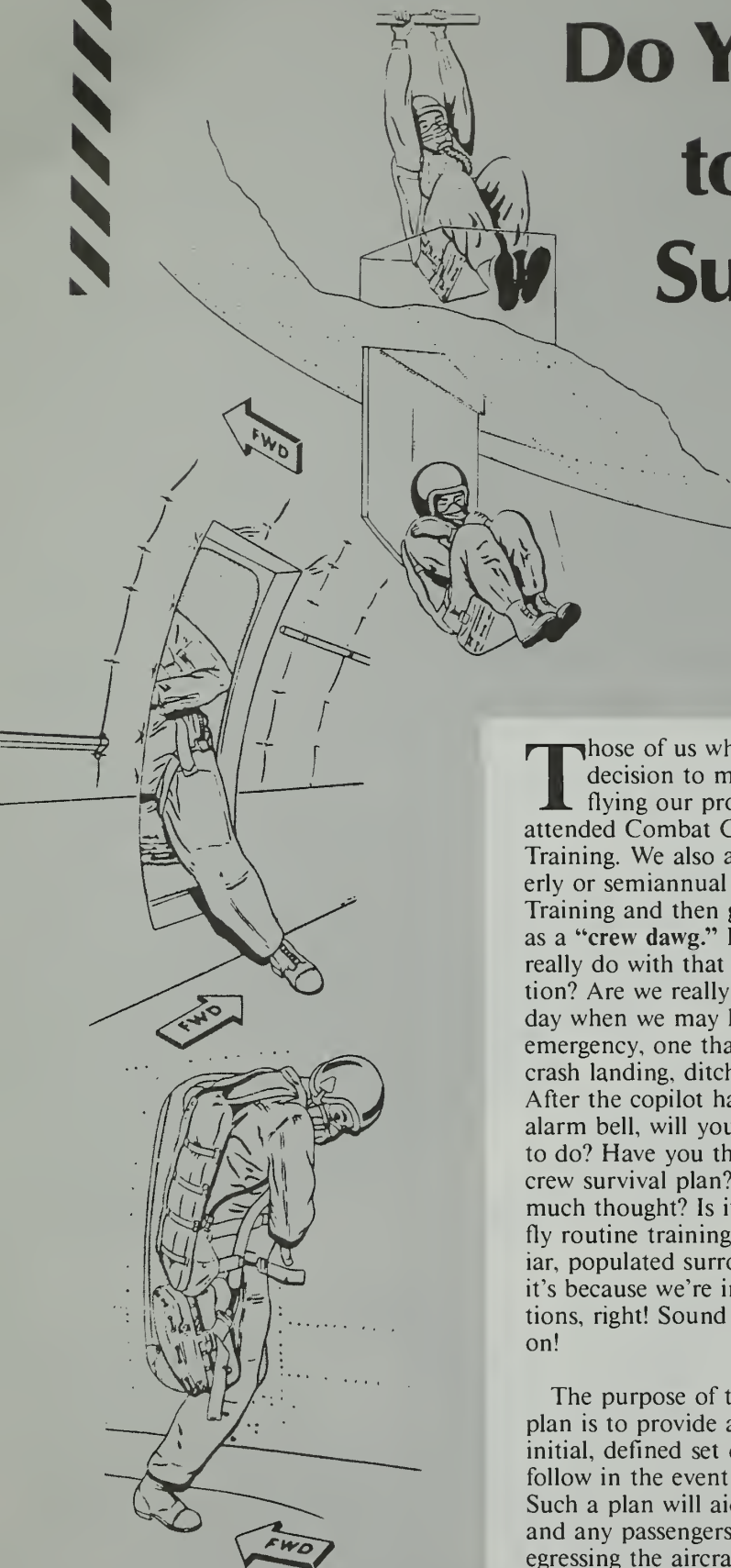
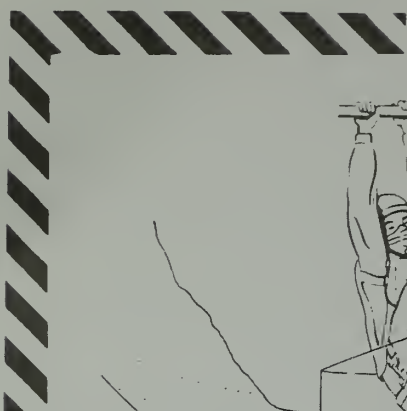
The purpose of the crew survival plan is to provide an aircrew with an initial, defined set of procedures to follow in the event of an emergency. Such a plan will aid the entire crew and any passengers in successfully egressing the aircraft and surviving environmental factors until an effective

pickup has been made. These initial actions can make the difference between being a survivor or a non-survivor. All of this sounds good, but maybe you need help to know where to start in devising such a plan.

First, take a look at the emergency procedures section of the Dash 1 for your aircraft. That's the section that we're all familiar with, right? Wrong! Read the fine print as well as the bold face. Gee, you didn't remember some of those things listed under Ditching, Crash Landing or Bailout procedures, did you? Each crewmember must be thoroughly familiar with these sections, as well as the locations of emergency first aid kits and miscellaneous equipment which could make the survival efforts of the crew more effective.

Every emergency situation is different and requires the aircraft commander or senior ranking officer, as well as each crewmember, to use sound judgment in making decisions which will affect the survival of the entire crew. Several factors influencing these decisions are: the amount of time available, the environment, terrain, tactical considerations, and the health and physical capabilities of

COMBAT CREW



each crewmember. Now I guess you want to know where to get the information to aid in making these decisions, right? There are a bunch of people out there willing to give it for you. It's all for the asking.

Talk to the folks at your local Aircrew Life Support Branch. They not only can train you on your life support equipment and its intended purposes, but they also can give you ideas for improvising equipment or using the items in your survival kit to get maximum utilization out of them. These folks also get regular information on both actual and training survival situations. This is information that may be of help one day.

Are you going TDY? Overseas? Do you pull alert on an EWO sortie? If so get with your Wing Intelligence Branch. These folks can give you the latest information on the customs, laws, types of government, political factors and how the local populace along your route of flight can be expected to react to your presence if you go down. They can also give you

information on the types of terrain, vegetation and wildlife you might encounter in these areas.

Staff agencies, such as the legal office, can give you information on laws and customs of other countries. They can also clear up questions you may have on your legal status in a foreign country or in dealing with the Code of Conduct or the Geneva Convention. Your base hospital can give you refresher training in emergency first aid. Are you starting to get the picture? Good! As they say, there's a wealth of knowledge out there. You only have to ask for it.

Sit down and talk to your crew. Go over your emergency procedures together and toss in some realistic "What ifs." Divide tasks among them. Make sure each crewmember knows his or her duties and who will perform which tasks. This will not only get everyone involved, but will get them into the books as well. Check with other crewmembers, especially the "old heads." These are the people who can fill in the gray areas, by relating to some of the ex-

periences or those others might have had.

Now that your crew survival plan is starting to take shape, get it on paper. Give a copy to each crewmember or make a single copy available for the entire crew. All of this doesn't sound that hard does it? But wait, don't stop here. You need to review your plan on a regular basis. Don't let it become just another filed item. Review it when you go on alert, before deploying, and any time your crew is affected by a crew change. Update the plan if necessary. T.O.s and equipment procedures change.

Survival is a crew effort and each crewmember must be prepared for survival situations. This can best be accomplished by having a survival plan and sticking to it. Know the uses and locations of your survival and first aid kits. Be prepared for an emergency situation at all times. Now that you've got the idea, do you want to be a survivor? Of course you do, so start working on that plan. It could save lives one day. **Maybe your own.** 

YOUR LIFE, OUR JOB

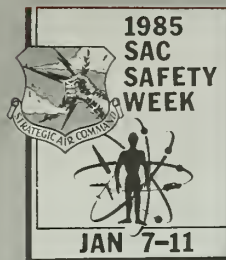
**WE WORK AND WAIT — TIME TO PASS
AS MAN AND MACHINE WORK HARD AND FAST
TO US THEY SEEK ONLY THEIR LAST
THE EQUIPMENT THEY USE KEEPS THEIR FUTURE GOING PAST**

**A FANCY JOB, GLORY BOUND
WE DO NOT HAVE, AND HAVE NOT FOUND
WE ARE THERE, A CHOSEN FEW
OUR EQUIPMENT USED WHILE THEY FLEW
ACHES AND PAINS, COMPLAINTS ABOUND
THIS HELMET FIT FINE WHEN I LAST CAME DOWN**

**WE ARE THERE TO MAKE WRONG RIGHT
A LOT OF WEEKENDS AND ALL THE NIGHT
WHEN ALL'S OVER AND PARTIES BEGIN
PATS ON THE BACK; WE WON AGAIN
LOOK FOR THOSE PEOPLE STILL ON THE JOB
THOSE NOT THERE, NOT PART OF THE MOB**

**UNSUNG HEROS, WELL MAYBE NOT
JUST THOSE DEDICATED PEOPLE FROM YOUR LIFE SUPPORT SHOP**

By SSgt George Noonan
379BMW Aircrew Life Support
Wurtsmith AFB, MI



Air Force Industrial Safety — What is it and How Does it Work?

Simply stated, Air Force Industrial/Occupational Safety is the collective effort of command, supervision and task performers to avoid injury to people and damage to property in the USAF workplace.

The practical and moral aspects of USAF mishap prevention are interrelated, because mishaps result in a waste of manpower and resources, and in physical and mental anguish. Without a concentrated deterrent to counter this waste of manpower and resources, the number of mishaps would challenge the imagination.

Experience has shown that there is virtually no USAF hazard that cannot be overcome by practical safety measures. The future may introduce a type of unavoidable mishap, but history indicates that practically all barriers to Air Force safety can be overcome.

In addition to congressional mandate and Air Force directives, there are several basic reasons for continuing, concentrated effort to prevent USAF mishaps:

- Preclude needless impairment of health and loss of life.
- Mishaps adversely impact efficiency, productivity and mission accomplishment.
- Failure to take necessary precautions against predictable mishaps can involve culpability for those mishaps.
- Mishaps can produce far reaching social harm.

As previously stated, the collective effort of command, supervision and task performers is required at all times so each may benefit from the Air Force Industrial/Occupational Safety Program. This collective effort is frequently misunderstood and the result can be disastrous, when the "other" person fails to respond as anticipated. So, let's set the record straight by

clearly defining the responsibility for industrial safety in Strategic Air Command workplaces.

COMMANDER

Commanders have the ultimate responsibility for mishap prevention. They set safety policy and guide and support the development and implementation of the industrial safety program.

Safety staffs at all levels manage the industrial mishap prevention program for their commanders. They advise commanders, functional managers, and supervisors on safety matters and provide feedback on the success of the program. The safety staff assists in mishap and hazard investigations, conducts safety inspections, monitors corrective action on mishap and hazard reports, makes risk analyses, evaluates facility and equipment design features, conducts/monitors safety education, and establishes local safety procedures.

The bottom line is simple: the local safety program is the local commander's safety program — it is managed and administered by the local safety office.

SUPERVISION

Functional managers are responsible for implementing the mishap prevention program directed by the commander and managed by the base safety office. They must make sure the commander's safety policies are enforced by each supervisor.

Supervisors share the responsibility for preventing injury and damage. They are the closest link in the management chain to the people in the work center. The attitudes of task performers toward mishap prevention are likely to reflect the attitude of their supervisor.

TASK PERFORMERS

Just as it is the responsibility of the Air Force to provide a safe working environment for its people, it is the responsibility of individuals to comply with the Air Force safety and health standards. Individuals, both military and civilian employees, must make supervisors aware of hazards or unsafe conditions in the workplace.

The authority for the Air Force mishap prevention program comes from Federal law, Department of Defense Directives, and the administrative powers of the Secretary of the Air Force. This authority is reflected in the U. S. Air Force mishap prevention policy which is basic to keeping a combat ready posture: Commanders will make sure that positive mishap prevention measures are used in achieving the highest possible state of readiness. The following policies apply:

- The Air Force supports Federal laws and regulations that relate to safety and occupational health in Federal agencies.
- All Air Force personnel will be provided a safe and healthful work environment.
- The Air Force will help other Federal agencies in areas of mutual interest to promote safety and occupational health.
- Air Force commanders at all levels will have active and ongoing safety and occupational health programs.
- Air Force safety programs will be consolidated as much as possible.
- There will be positive efforts to eliminate unsafe acts or conditions that may produce damage or injury.
- There will be positive efforts to reduce the effects of mishaps.

Your full and sincere participation as a commander, supervisor or task performer is vital to the continued success in controlling mishaps in the SAC workplace.



BABY IT'S COLD OUTSIDE

—even with a hot seat!

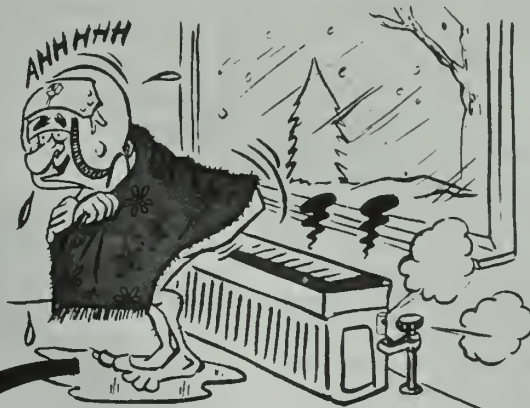
THIS ground accident may sound like one whale of a tale, but it did happen.

It seems a SAC type Captain, just off crew duty, had retired to the old homestead for a relaxing shower and rest. His shower proved most relaxing and our good Captain, clad only in a bath towel that struggled to cover his posterior, moved about the house in complete repose.



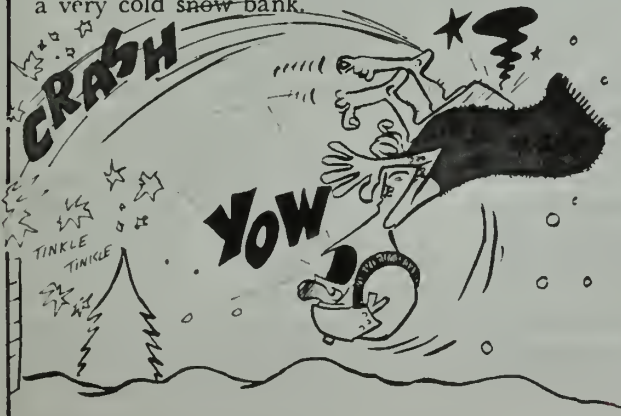
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With seeming little care and definitely not much thought, the Captain lowered himself to a radiator before his living room picture window. It may be that this Captain wasn't guilty of indecent exposure, but he soon discovered that he was exposed in at least one strategic area.



As his rear portions came into contact with a very hot radiator, he reacted with considerable force. A force, in fact, that was sufficient to allow him to do a complete and uncontrolled back flip.

This back flip carried him through the window, out into the cold without so much as a scratch, and then downward about five feet into a very cold snow bank.



Fully aware that there were a number of startled onlookers, the Captain could only cover himself as best as possible and beat a hasty retreat.



Moral of his story: Don't ever sit on hot radiators; but if you do, try not to react too vigorously.

HOME, SAFE



Mr. Roscoe A. Disbrow
HQ SAC/IGFG

Last year more than three million people were temporarily or permanently disabled in mishaps in the home; and the total number of people killed in mishaps in the home is only exceeded by the number killed in motor vehicle mishaps. "Home sweet home" appears to be a very dangerous place. Despite these gruesome statistics there is some good news because the number of disabling injuries occurring on and around the home each year is slowly decreasing. We should not let this improvement deter efforts to continue to reduce the number of preventable mishaps in the home.

Believe it or not there are far more hazards in the home than you normally encounter in the workplace. The yard, garage, workshop, kitchen, basement, and many other areas in and around the home are the source of hazards which can cause painful injury to you and your family. Common sense and good safety practices will help eliminate most of the hazards. Take a few moments to review the following suggestions. Apply them where necessary because they will help make your castle a place

you and your family can safely enjoy.

The yard is a source of pleasure for the entire family. Adults spent many productive and enjoyable hours creating beautiful flower gardens; growing tomatoes, lettuce, and other vegetables; or just maintaining a beautiful lawn. It is a playground which the children share with neighborhood friends after school and on the weekends. The yard can also contain hazards which could turn joy into agony in one swift moment if proper precautions are not taken.

Garden tools must be returned to their storage racks when they are no longer needed. If left unattended they could prove to be deadly toys for youngsters or cause someone to trip and injure themselves. Constant exposure to the elements causes the tools to rust and corrode which makes them dangerous to use. Broken tools have caused many painful injuries which would have been avoided if the tools had been cared for properly.

The lawn mower requires very special attention because it causes so many injuries and has the potential to permanently disable small children and adults. Power mower blades cannot distinguish between grass, rocks, bottles, or fingers and toes, so it is the responsibility of the operator to use the equipment safely. Keep children and pets a safe distance away from the area being mowed. Before cutting a section of the yard police it for sticks, stones, and other debris which could become deadly projectiles. (This practice also keeps the yard looking neat, which will keep your neighbors happy.)

Never leave the lawn mower running when you have to empty the clippings, add fuel, or make any

other adjustment which places you in danger from the mower blades. An unattended mower can be inviting to an unsuspecting child. For all repairs or adjustments of the cutting level, shut off the motor and disconnect the spark plug; unplug the cord of electrical models.

Another hazard associated with yardwork is the improper use and storage of insecticides and other chemicals. Always read the instructions before opening the chemicals and follow the instructions precisely. Once again do not use these substances around children and pets or when the wind is too high for you to control the spray cloud. When you are finished, store the poisons, toxic chemicals, and other hazardous items in storage areas which can be secured by a lock. These are simple precautions but they are overlooked way too often, resulting in injuries which could easily have been prevented.

Another source of hazards around the home is the garage. The biggest challenge facing an American family today appears to be how to get two automobiles in a two-car garage. It is amazing how quickly those spacious garages get cluttered up with boats, lawn mowers, bicycles, golf clubs and anything deemed too large, too dirty, or unfit to put in the house. This collection of toys, boxes, old furniture, etc., makes it very difficult to move around in the garage and creates a fire hazard. Reevaluate how you are using your garage, and if it is not being used to protect your automobiles from the environment you may want to take immediate corrective action.

The garage can also be hazardous if you must use it for car repairs during inclement weather, particularly

HOME?

very cold weather. Under these conditions you must be careful to keep the garage door open while the engine is running. Adequate ventilation is a must to prevent carbon monoxide poisoning. This seems obvious but every year many lives are lost because this simple advice was not taken seriously.

This is by no means a complete discussion of all the hazards found around the house and yard, but it does give you an idea of some simple actions you can take to significantly reduce the risk of injury to your family and friends. These hazards are not limited to the outdoors or garage because many people are seriously injured in their living room, kitchen or other areas within their home.

House fires claim hundreds of lives annually, lives which could have been saved. I can think of no other area of home safety in which the phrase, "An ounce of prevention is worth a pound of cure," is more applicable than fire prevention. Poor or improper wiring, grease fires and smoking cause most of the preventable house fires.

Before using appliances or extension cords make sure they have been given a safety check by the Underwriters Laboratory. If so they are in compliance with existing safety standards and are safe if used in accordance with the instructions provided. Homes built over ten years ago should have the wiring checked to insure that it can carry the increased demands of the microwave oven, toaster, waffle iron, grill, radios, refrigerator, and stereo; devices which may or may not have been considered when the wiring was initially installed. Similarly, do not overload

extension cords by plugging in six or seven appliances. The wiring in the cord was not designed for this use and will cause a fire if continually used in this manner.

Grease fires are another hazard. The reaction many people have to a grease fire is to pour water on it to extinguish the flames. This is the worst thing you can do because water will cause the grease to splatter and the fire to spread. Your best course of action is to place a lid over the pan or sprinkle it with flour. Both these actions will smother the fire. You must be aware of how to handle this situation or you could very easily make things worse.

Electric shock, or, in the extreme, electrocution, is another major cause of injuries in the home. Taking a bath or shower with a radio plugged into an adjacent wall socket is tempting disaster. Even though appliances are insulated, your hands should be dry before touching a blender, mixer, iron, or other electrical appliance. To prevent electrical shock when using power tools, make sure they're either grounded or double-insulated.

Some electrical appliances and tools which do not have three prongs have one plug larger than the other. When using this type of plug do not try to force it into an outlet. If it cannot be inserted you must use an adapter to take advantage of the safety features.

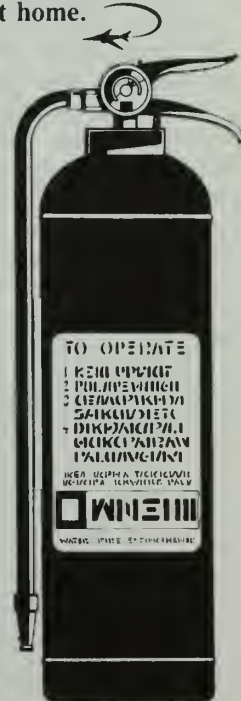
Perhaps the best preventive action you can take in your home is to have emergency phone numbers readily available. The phone numbers for the fire department, the police, doctor, and ambulance service should be in a conspicuous place. In addition to posting these numbers in an obvious

location, teach the children and other family members how and when to use these emergency numbers.

These are just a few thoughts concerning safety in the home. One of the biggest problems in eliminating injuries is making everyone aware that the home can be hazardous if the proper attitude is not developed by each and every member of the family. Get the family in the right frame of mind by having everyone participate in developing an evacuation plan in case of fire; conduct a check of home safety status to identify hazards before they cause a mishap; and be involved in home safety awareness. A cozy fire, comfortable chair, and smiling faces are excellent rewards for a honest day's work. A safe home guarantees these benefits for many years to come. **Let's all stay alive in '85 by keeping safety first, especially at home.**

*take
time
to be
safe*

*take
time to
find out
WHERE
it is...
HOW
to use it*





Lt Col Kenneth C. Dozier
HQ SAC/Chief, Aerospace Medicine

Aerospace Medicine —

"An Ounce of Prevention ..."

“Well, what are you going to do for yourself?” That’s a rather harsh and possibly uncouth response from a physician, but it is an honest question. Medicine in general has learned what we flight surgeons have been preaching for years. It is much more humane and cost-effective to prevent illness than it is to treat it.

Consider those preventive medicine pitches you’ve heard us make at flying safety meetings:

- Don’t fly with a cold.
- Get enough rest.
- Don’t smoke.
- Get sensible and regular exercise.
- Eat a balanced diet (see AFP 166-16 and 166-42).
- Get your annual physical examination.
- Learn to deal properly with stress.
- Don’t drink too much.
- Keep your shots up to date.

You’ve heard those messages since your earliest flying days, but they are still true. Our charge is to keep you flying, safely. It is so much easier to keep you healthy than to treat your illness.

As much as we want you to fly, a good flight surgeon won’t cut corners and return you to duty when you’re not well. To risk the short-term gain of letting you fly one sortie when you are not 100 per cent up to par is worse than foolish. A much more serious problem might result.

For example, letting you return to flying when your cold isn’t resolved, only because you really want to fly and I want to be a nice guy, won’t hold much water with you, or the squadron commander, if you perforate your ear drum because of an ear block secondary to your cold. You’ll possibly require four to six weeks to heal. The point is — it would be much easier on all of us if I’d given you the right information on how to help prevent colds and you’d followed it.

Realistically, I’m not saying that all illness can be prevented. However, take a look at some of the illnesses/diseases/conditions that can be prevented or modified by a change in life style based on following that advice your trusty flight surgeon has been giving you for years.

Coronary Artery Disease (heart attack). There is strong statistical evidence that too much cholesterol increases your chances of having a heart attack. We’ve been preaching reduction of saturated fats in the diet and regular aerobic exercise for years. Both of those acts will reduce your cholesterol and hopefully your risk of having an early heart attack.

Cancer. There is a growing body of medical literature in which certain cancers, i.e., lung, intestinal, oral cavity, larynx, and esophageal cancer, etc., may be related to smoking, improper diet, and too much alcohol. Ever hear that sermon before?

Diabetes. May be related to obesity and occasionally to alcoholism. Diet and too much booze again; got the point?

Lung Diseases, such as emphysema and bronchitis. I won’t mention the culprit.

Arthritis may be aggravated or even activated by the long-term stress of carrying around too much baggage — that’s under your belt, not in your B-4 bag.

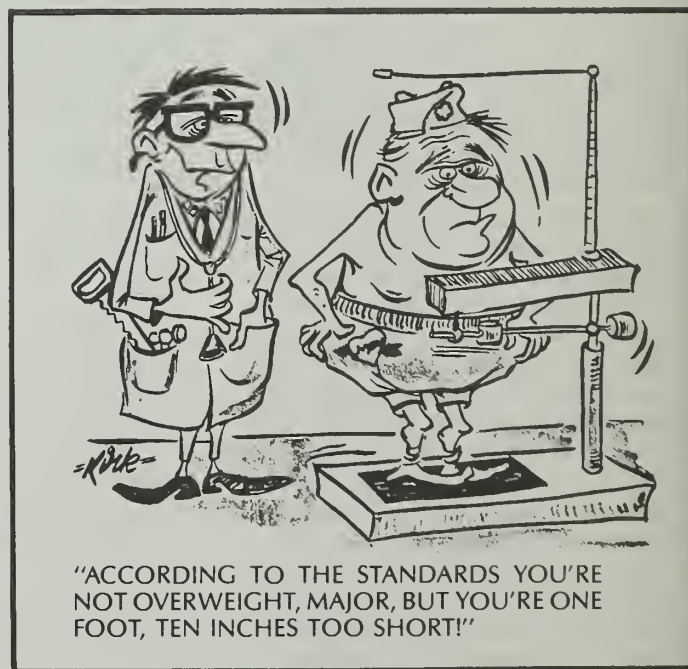
Decreased Libido or Sex Drive. Now I’ve got your attention. Even that malady may be due to alcohol abuse, high blood pressure and diabetes (all of which can be related to life style).

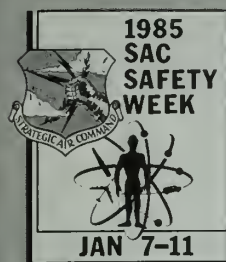
The list goes on. Even viral illnesses, such as colds, are more common when you are run down, not eating properly, or hung over.

Now I’ll come back to my original question, “Well, what are you going to do for yourself?”

Aerospace medicine is a preventive medicine specialty. But preventive medicine is based on a partnership, flight surgeon and crewmember. If either of us doesn’t do his/her part, the whole effort is useless. My part is to provide you with the best and most current medical guidance I can; yours is to put it into practice. I also promise to provide you the most current, compassionate care I can when prevention isn’t enough.

My job’s easy; yours is the hardest, but after all you’ve the most to gain — in increased years of healthy, happy, productive flying and living!





TOXIC SUBSTANCES!

Lt Col Bobby R. Quisenberry
Capt James E. Medley
HQ SAC/IGFW

The only toxic substances people who work with ICBM systems need to be concerned with are liquid propellants and PCBs, right? Wrong! The environments we work in at the large missile systems complexes contain many toxic substances. Each of these chemicals can cause death or injury if proper safety precautions are not taken. The specific precautions required in any given situation vary with the substance being dealt with. In this article, we will discuss only a few of the known toxic substances found in large missile systems, providing some specific information on their physical properties, precautions required, and neutralization/clean-up procedures when applicable.

The most obvious toxic substances we deal with are missile propellants. The liquid fueled Titan II uses Aerozine 50 which is a 50/50 mix of unsymmetrical-dimethyl hydrazine (UDMH) and anhydrous hydrazine, as the fuel, and nitrogen tetroxide (N_2O_4) as the oxidizer. The Minuteman III system also uses liquid fuels, monomethyl hydrazine (MMH) and N_2O_4 . These propellants are hypergolic which means they ignite upon contact with each other. Compounds of hydrazine are autothermal; that is, they may ignite upon contact with certain things such as grease, rust, or weeds. Nitrogen-Tetroxide reacts with water to form nitric acid. Since the human body is mostly water, you can imagine the consequences of coming into contact with it. The threshold limit values (TLV) or the amount you can be exposed to for an eight hour day, five days a week, are UDMH .5ppm, MMH .2ppm and N_2O_4 3ppm. At levels above these, approved filtering or self-contained breathing apparatus must be worn. As levels of exposure increase, more stringent respiratory protection

requirements exist. In any case, these propellants are extremely dangerous and must be treated with care and respect. Clean-up of major spills should be attempted only at the direction of the Missile Potential Hazard Team (MPHT) or the disaster response force (DRF).

We use several solvents in our day to day operations. One of the most common is PD-680 (Stoddard Solvent), the so called "safety solvent". This solvent is common in many industries and is not normally highly toxic. However, in the confined space of a missile silo with little or no fresh air input, dangerous levels of this solvent may accumulate unless the amounts used at any one time are strictly controlled. The TLV is 500ppm. The vapors are colorless and have a kerosene-like odor. It is not compatible with strong oxidizers (such as N_2O_4) and can cause dizziness, irritation of the eyes, nose and throat, and may affect the central nervous system. Another commonly used solvent is Freon in its various forms. It is often used as a degreaser. Like PD-680, amounts of Freon used in confined areas must be strictly controlled. While the TLV seems high (1000ppm) these levels can be exceeded quickly in areas with little or no ventilation. Another serious problem with these solvents is oxygen displacement. It does not take large quantities to reduce the oxygen content to below safe levels. As a vapor, freon is colorless with a very slight ethereal odor, and in very large doses can cause asphyxiation or cardiac arrest. If you get it on your skin or in your eyes, flush with water, if swallowed, use syrup of ipecac to induce vomiting.

Solvents and propellants are not the only substances we deal with that are

hazardous. There are several gases and liquids that, due to their chemical properties or the fact they are under pressure, can be very dangerous. Gaseous nitrogen is used in many confined areas. Under these conditions, it can displace oxygen in the air and the lungs, causing death by suffocation very quickly. Even air, under pressure, can cause injury or death due to flailing lines, rupture of components or mere pinhole leaks. Hydraulic fluid under pressure can be very flammable. It can also cause blindness and, when spilled, creates a slipping hazard.

Some other toxic substances you may come into contact with, but probably do not think about too much, are herbicides and insecticides. The civil engineer uses some very strong herbicides on missile sites for vegetation control. Most of our missile sites are located in heavily agricultural areas. The modern farmer uses many insecticides and herbicides. Most of these are very toxic and could cause serious problems if ingested or absorbed into the body. They are usually sprayed, either by machinery or airplane. During planting season, it is not a bad idea to look around before you start work and make sure you are not downwind of a spraying operation.

In this article it would be impossible to discuss all of the various substances we come into contact with. Our intention is to increase your awareness of the need to treat these items with common sense. At your base, there are several agencies where you can get more specific information about these and other substances found in your missile systems — wing safety, the bioenvironmental engineer, quality control, stan-eval or the fire department. These agencies have a great wealth of expertise available — just for the asking!

Deterrence: Keeping someone from doing something through fear, anxiety, doubt, etc; discouraging.

To paraphrase an often heard television commercial, "In SAC, deterrence is Job-1." But how do we maintain a deterrent quality in our armed forces? Capability and confidence in our weapon systems are undoubtedly important considerations. Of equal importance, however, is that our personnel who operate these weapon systems must be fully capable in the performance of their duties. Training, therefore, becomes an integral part of our deterrent posture for it's through training that technicians and operators achieve their optimum potential.

As supervisors facing new areas of responsibility in an ever changing military environment, there are some questions we can ask ourselves to help us find and/or establish our priorities. Are we as enthusiastic toward training our subordinates as we are toward receiving new weapon systems? Do we consider our training program as critical to successful mission accomplishment? If our personnel are going to achieve the "cutting edge," we must ensure our training programs can provide that keen edge.

In 1982, the Air Force revised AFR 50-23, "On-the-Job Training" (OJT) to include the Instructional Systems Development (ISD) within the OJT concept. The regulation provides detailed guidance for planning, conducting, and evaluating OJT. In each area addressed, the regulation essentially establishes cornerstones for a solid

foundation which is necessary for an effective unit training program. Although AFR 50-23 is specifically for the OJT program, its wealth of information is an asset for developing/fulfilling any type of training. This regulation states "supervisors have the greatest single impact on successful mission accomplishment . . . they are responsible to share their experience and expertise . . ." But no source document, AFR 50-23 or any other, will be effective if commanders, supervisors, trainers, and trainees do not actively and completely fulfill their responsibilities.

Following the ISD approach, a supervisor has five specific steps to follow in designing a training program: analyze system requirements; determine training requirements; develop objectives and tests; plan, develop, and validate instruction; conduct and evaluate instruction.

As a supervisor, among the first tasks you must accomplish when developing or evaluating your training program is to determine system requirements. When you look at the mission your personnel are tasked to accomplish, you identify their specific jobs and inventory each task required to complete that job. Although the Specialty Training Standard (STS) and Job Qualification Standard (JQS) are among your most useful tools, they must not be your sole source. A job analysis must be thorough. You must identify and group all the specific job data that can be acquired. Among the best sources for job performance information is to observe an experienced person on the job.



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Having analyzed system requirements, you must now compare your personnel's qualifications against those requirements and determine what training is necessary to ensure they can accomplish your work center's mission. Conducting an initial evaluation is crucial to this ISD step, yet it can be the easiest to "pencil whip." A quick look through the STS/JQS is not sufficient. Ask questions such as: How critical are the tasks the individual will be performing? How often will each task be performed? How difficult is the task and what are the experience and knowledge prerequisites for learning it? How many personnel must perform it? In determining training requirements, you may also discover that your personnel require a course of study/instruction listed in AFR 50-5.

Understanding your system and training requirements, your next step is to construct objectives (what trainers must demonstrate to ensure they learned what they were expected to learn) and tests (ensuring the trainee has learned the necessary information to meet the objectives). The objective is normally expressed in behavioral terms, i.e., the student will: react to an emergency action message; install a transistor; change an aircraft tire. Certain conditions accompany the objective such as in what type of environment the student performs (on the flight line; while on alert) and/or what information and equipment is given the student (with technical orders). And finally, the objective requires a standard of performance — how fast (in two minutes; one hour) and how well (without error; 80% accuracy).

Having completed the three preliminary steps, you now move toward actual instruction and determine how to accomplish the training. How are you going to impart task knowledge to the trainees? Will you lecture, give one-on-one instruction, or demonstrate? Will you use text books, audiovisual equipment, training equipment, actual weapon system equipment, or special tools and test equipment? Once these questions are answered, you then develop or purchase the plans, programs, equipment, etc., you will be using. Prior to your program being accredited, it must undergo testing to ensure it can achieve the desired objectives.

Up to now, you've expended a lot of time and energy developing a training program that's designed to help your work center accomplish its mission. Your final step is program implementation accompanied by periodical evaluations (self-inspection, IG, staff assistance, quality control, third party). If you have successfully accomplished these five ISD steps, your personnel should be well trained and ready to assume responsibility. The fruits of your labor, however, may not be evident until your duty section or unit must rely on the individuals trained by your program. If you as a supervisor have worked the program hard — the way it should be — your results should be predictable.

Bumper stickers at Vandenberg give us the bottom line — Train and Gain. You gain personal satisfaction, your people gain in knowledge and skill level, and the nation gains deterrent strength.



Static Discharge: A Deadly Enemy

1Lt Greg Zimmerman
1Lt George Gagnon
23 BMS, Minot AFB

Another night flight out of Minot AFB, the usual profile: a 1700 local takeoff direct to air refueling; then on to low level — IR 447 — and finally, back to the pattern for an hour of transition.

The afternoon started normally. We arrived at Base Ops to file our flight plan and receive our weather briefing. The weather shop — a typical SAC weather shop complete with television screen and current weather displays, depicting icing, turbulence, and thunderstorms across the CONUS — was calling for VFR conditions throughout the high level portion of our mission. They were also calling for a chance of isolated thunderstorms with $\frac{1}{4}$ inch hail and low ceilings throughout the low level route. This was, however, a predicted forecast (we all know how seriously we view those predictions).

Preflight progressed normally through engine start and led to an on-time takeoff. Our departure and air refueling was equally uneventful and we prepared for lower level. We called for weather from Ellsworth PMSV, as we typically do, to obtain the most current predictions for our low level route. Again, we were cautioned about the possibility of isolated thunderstorms and the associated hazards. Taking into account our weather briefings, we were especially alert for weather

along the route. However, high level scans — both visual and radar — showed no signs of weather in the low level route structure.

Descent into low level was normal, and after a successful evaluation of the terrain avoidance systems we continued our mission at TA altitude. The first thirty minutes of the route was VFR. Slowly, a haze built up



and eventually turned into scattered to broken cloud decks at approximately 3000 feet AGL. The sun was setting but the sky was still light enough to distinguish a sky covering with clouds requiring a slow climb to IFR altitudes. We arrived at our IFR altitude before entering the cloud deck; radar scans and visual scans suggested no thunderstorms were ahead or building in the area. We hoped that the cloud deck was a temporary restraint from our TA mission and that a break in the clouds would permit us to return to the lower TA altitudes.

In the clouds we experienced no turbulence, no precipitation, no icing, no significant change in winds, and no significant change in temperature — OAT registered -10 degrees Celsius.

That's when it hit. A brilliant flash of light for but a split second shocked the aircraft as if hitting an air pocket. We weren't quite sure what had happened. All equipment seemed to be working as advertised, there had been no power fluctuations, and a visual and radar scan of the area detected no significant build-ups. Before going much further, however, we decided that our safest route would be to abort and try again another day.

Our initial assumption was that a static discharge, commonly referred to as "St. Elmo's Fire," had shaken the aircraft in an unusual display of electricity. After climbing to FL 270 and further discussion we concluded that we had been struck by lightning. We weren't sure that any damage had been done to the aircraft, however, we maintained 250 KIAS for the trip home and did a thorough study of our instruments and equipment for any signs of damage.

The first indication that something was wrong came when the EW attempted to send a weather report through the HF radio. The radio could neither send or receive a message, and the AFSATCOM was determined to be inoperable also. Interestingly, however, no power fluctuation was ever noted.

At the suggestion of the Instructor EW, a sextant was placed in the port and a scan was made of the aircraft's exterior. Due to the twilight conditions little detail could be distinguished. An irregular shape to the left wingtip was discovered, however, little more could be identified in that area of the aircraft. The vertical stabilizer, reported the IEW, had several flaps of metal protruding from both sides, however, the extent of the damage could not really be determined.

Our plan was to hold over Minot AFB while burning down fuel, accomplish a controllability check prior to final descent, and then land. No abnormalities were noted in critical aircraft performance instruments. Flight controls, including the rudder, showed no signs of distress. We landed without incident and cleared the runway and shutdown the aircraft as directed by Command Post. After performing our after landing checks we exited the aircraft to inspect the damage.

The left wing had an oblong hole in it about three feet by four feet, 10 feet from the tip of the wing. The

damage to the tail was much more severe. The hole was about six feet by eight feet — the size of a large refrigerator. Of the three spars which ran through the area, two were bent into a "U" shape while the third was completely missing. Also missing was the HF antenna coupler and an ECM transmitter. The lost coupler explained the HF fault we experienced in flight.

Following our return an investigation was conducted. The radar films were examined and revealed no significant findings. Inspection of the damage to the aircraft revealed that the cause was not a lightning strike as we thought. The actual cause was an electrostatic charge, "St. Elmo's Fire." According to AFM 51-12, Vol I, lightning strikes and electrostatic discharges are the leading causes of reportable weather-related aircraft accidents and incidents in the Air Force today.

It goes on to suggest that aircraft have been struck by lightning or experienced electrostatic discharges at altitudes ranging from surface to FL430 and they normally occur when one or more of the following conditions exist:

- Within 8 degrees Celsius of the freezing level
- Within 5000 feet of the freezing level
- In precipitation, including snow
- In clouds
- In some turbulence

Lightning is the discharge of atmospheric electricity within a cloud, from a cloud to a cloud, or from a cloud to the ground or some other conductor. Also, a charge may build up on an aircraft while flying through clouds or precipitation. The larger the aircraft, the greater the speed, the greater the number of particles it impacts in a cloud, therefore, the greater the charge which builds up on the aircraft. The B-52 and its mission places it all too frequently in ideal conditions for static discharge.

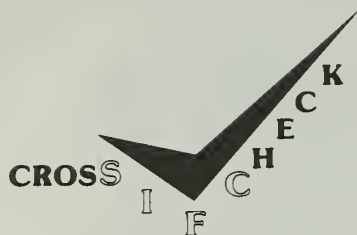
A little enlightenment on lightning strikes is being uncovered by NASA through their studies using an F-106B to penetrate thunderstorms. According to a recent issue of Aviation Week & Space Technology, the experiments have shown that some of our original beliefs about lightning strikes may be incorrect or limited. The results suggest that lightning strikes can occur any time — they may not necessarily be related to weather. The NASA report suggests that the most frequent strikes were above FL250 at temperatures below -25 C. Peak strikes occurred at -40C to -45C between altitudes FL340 and FL360.

Of course, the conclusion from this incident is: Stay out of the weather. However, knowing the conditions which could have driven the elements to strike so forcefully could have prevented such a costly incident. Understand that static discharge — "St. Elmo's Fire" — is just as deadly as lightning and just as damaging. Finally, know when to call it a day.

1st Lt Greg Zimmerman, the author, is a co-pilot in the 23rd BMS at Minot AFB.

1st Lt George Gagnon, the contributing author, is a navigator in the 23rd BMS at Minot AFB.





THE NECESSITY OF ASSUMED SAFETY

Ever hear these before? "To ASSUME makes a 'MULE' [censor's word] out of U and ME". Or "Where safety's concerned you don't ASSUME, you ENSURE compliance". Good axioms, but they make no allowances for ASSUMED SAFETY, an integral part of safe instrument flying.

What is ASSUMED SAFETY? It is trusting the judgement, knowledge, procedures and decisions of someone other than yourself. It recognizes that safety is a team concept. That no single person should (or could) be responsible for all aspects of safety in the flying environment. ASSUMED SAFETY allows you to use someone else's expertise to ENSURE safety, rather than forcing you to trust just yourself.

To show you ASSUMED SAFETY in practice, we've provided a few examples of situations where you either use ASSUMED SAFETY (trust someone else), or ENSURE SAFETY (trust only yourself, what you know to be right).

Cruising at altitude, Center calls you, stating, "... turn right heading 090 immediately!" You know an ATC controller is required to inform you what a vector is to achieve, and where the vector will take you. So what are you going to do? (Choose an option.)

- A. Turn! As expeditiously as possible.
- B. Query the controller. Tell him about his requirements.

If you chose "A", you have just operated with ASSUMED SAFETY. Although you know the controller's requirements, you realize it's safer

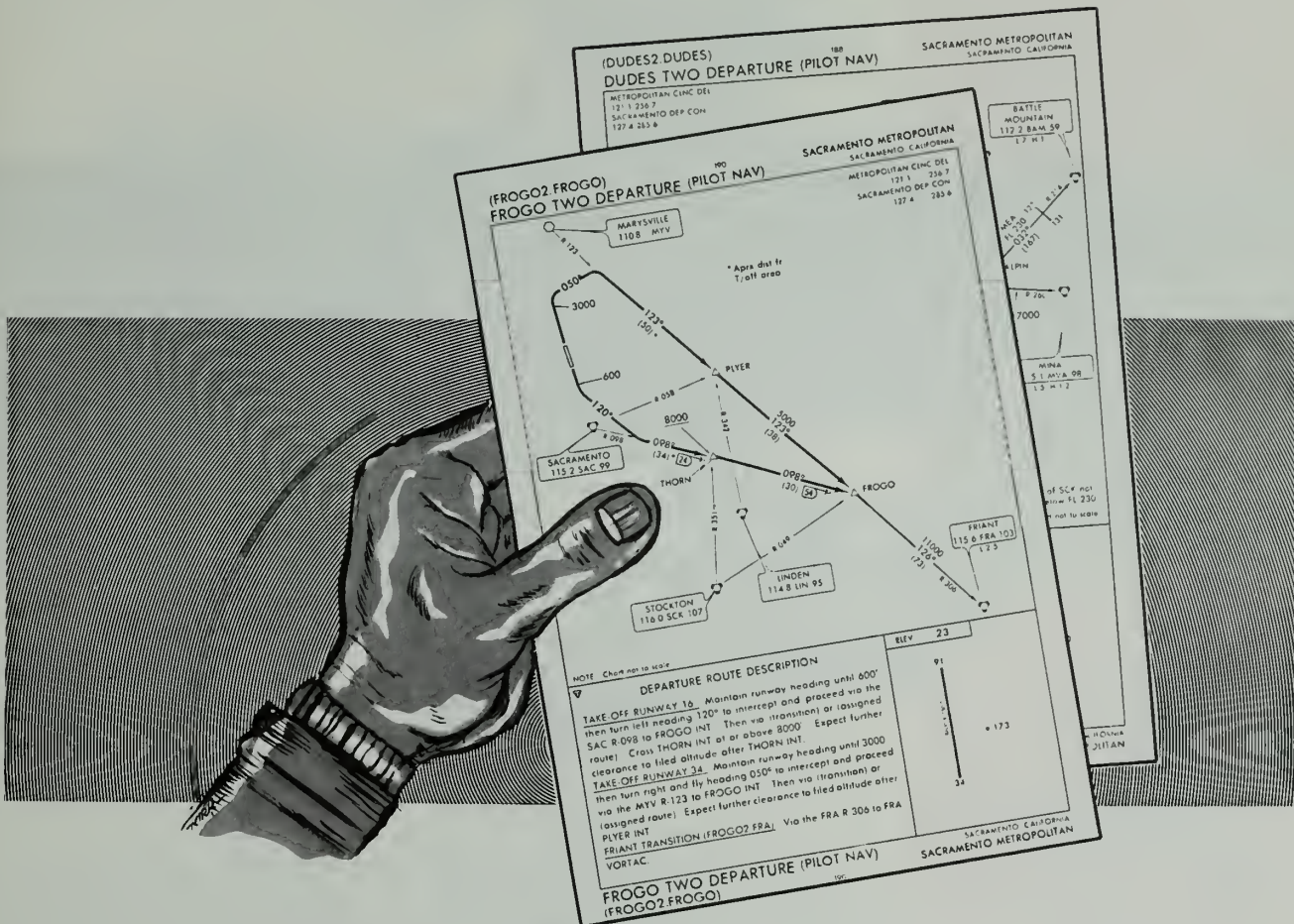
to act now, and question later. You've assumed the controller is acting to ensure safety by issuing abbreviated instructions. If issuing abbreviated instructions will prevent metal from hitting metal, a controller will abbreviate, and straighten out the details later! Failure to act on these abbreviated instructions could ruin your whole day, or lifetime! So, if you chose "B", we hope you're around long enough to get an answer! Your effort to personally ENSURE SAFETY is right, just so you don't end up dead-right!

OR

You are planning to fly an approach for landing, or SID for departure. Do you know where every obstacle is? What gradient was used to ensure obstacle clearance? What clearance do you have from obstacles based on the depicted altitudes?

Of course you don't! Do you still feel safe flying the approach or SID? You do because you assume the TERPS expert who drew the procedure covered each of these questions.

You also assume that other personnel in the TERPS field evaluated the procedure and answered every question. To date, we have not lost a single crewmember because a TERPS expert failed to consider all the obstacles involved. So when you fly an approach or SID, you again do so safely because there is ASSUMED SAFETY. The alternative, hardly worth considering, is for you to become a TERPS expert



so you can ENSURE your own safety!

FINALLY?

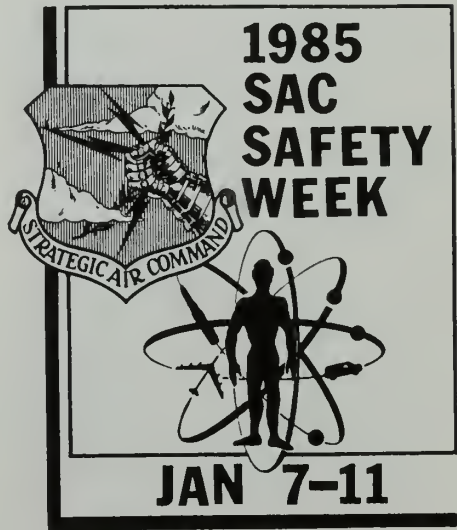
Preparing to fly, you get your pre-flight weather briefing. Do you believe your weather forecaster has told you everything he possibly can about the weather that might affect your mission?

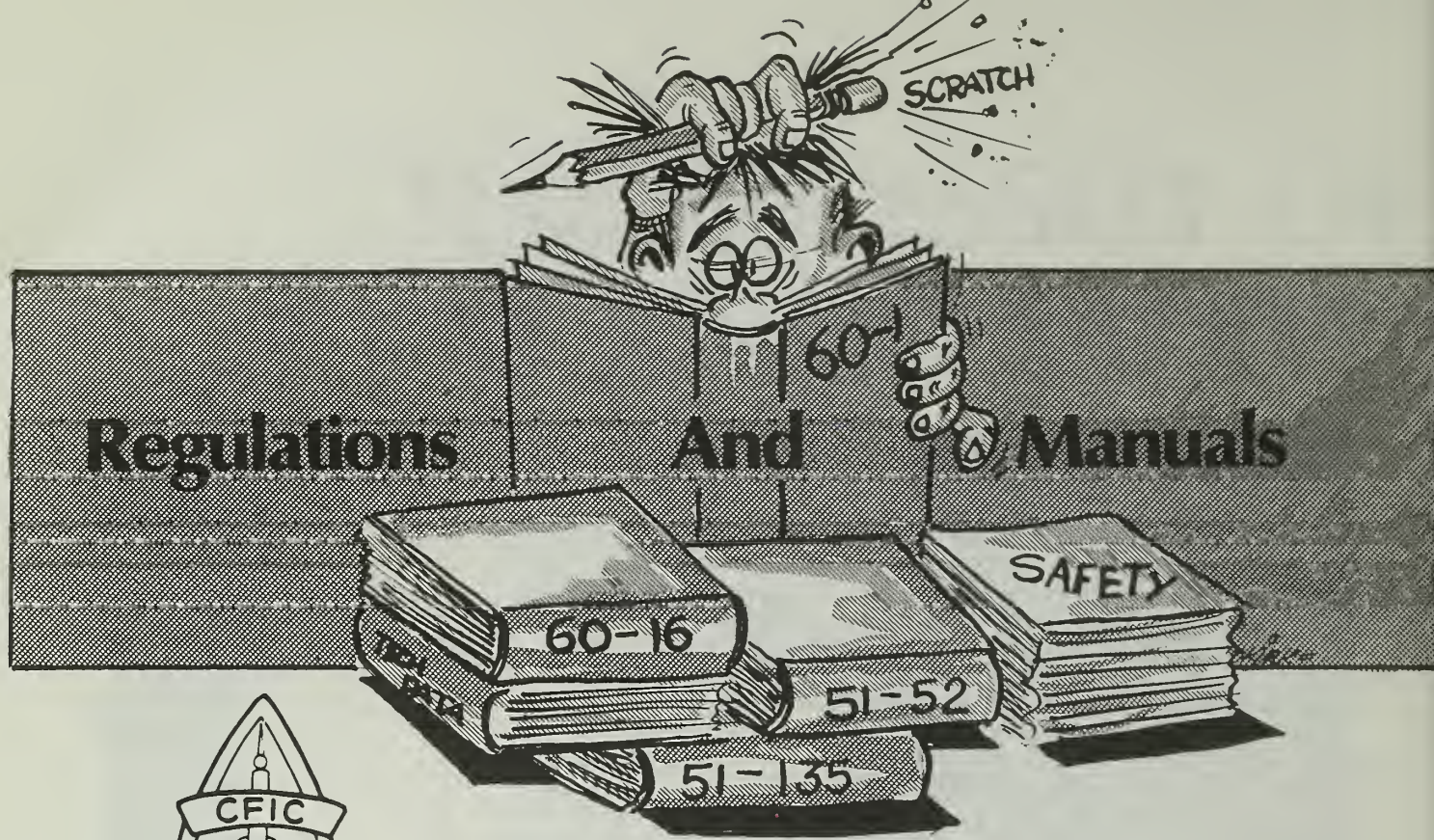
Probably more bad news than you wanted to hear! You rightfully assume that the forecaster is going to give you the most accurate, timely information he has available (realizing the shortcomings of both). That he'll inform you, even though you could have gone all day without hearing about . . . icing, turbulence, thunderstorms, low ceilings and visibilities, etc. Unless you have a degree in meteorology or a knack for crystal ball grazing, you must, for safety's sake, assume he's

right. Plan your mission accordingly!

Remember the definition we used for ASSUMED SAFETY? The bottom line is that it is trusting someone other than yourself to ensure safety. There are other professionals out there, willing and able, to share your responsibility for safety. Use and trust them! How safe would instrument flying be if we failed to take full advantage of what ATC controllers, TERPS experts and weathermen offer as safety assistance? Safety is a major part of their business too. So when you work with them, it is important to use a degree of ASSUMED SAFETY! They ASSUME you will do everything you can to ENSURE safety — shouldn't you ASSUME the same about them?

ASSUMING we'll be here next month . . . SIFC





TSgt Wayne Mooney
IG, CFIC, CASTLE AFB

How often have you had a question concerning flight operations, safety of flight or training requirements, and the person you ask tells you to look up the answer in some regulation? Chances are this answer upset you, because you were looking for the easy way out — being given the answer. In reality, this is the best answer that the individual could have given you. By looking up the answer, you can be sure of it being correct and as a result you will **FLY SAFER**.

With this month's emphasis being placed on **SAFETY**, this would be a good time to review the regulations and manuals that pertain to safety of flight. AFRs 60-1, 60-16, SACRs 51-52, 51-135, Volume VI all relate to safety of flight just to name a few. Aside from the words, "No No-

tice," regulations and manuals appear to be the most dreaded words crewmembers can hear. Over the years we have developed a dislike for reviewing regulations and manuals. Instead, we should be developing a respect for them. Without a genuine working knowledge of regs and manuals, our jobs can be quite dangerous.

In an effort to become more valuable to our unit, it is imperative that we become familiar with appropriate regulations and manuals that are applicable to the accomplishment of the flying mission. As crewmembers, we cannot afford to operate on "hear say" information. Most of the things we do as crewmembers are governed by regulations. Don't just perform your job because someone said, "That's the way we've always done it." Instead, pick up that regulation and see for yourself why we do the things the way we do. "Hear say" information is only good provided the regulations haven't changed. Remember, bad information is worse than no information at all.

Have you ever been asked by your pilot or someone on the unit staff to

act as a low level flight safety observer? As military members and good team players, we will do what is asked of us, many times without questioning our superiors. However, as a non-pilot crewmember, are you really qualified to be a low level flight safety observer? SACR 51-52, Volume VI, Chapter 4 states in part that . . . "The safety observer must be qualified to interpret the EVS display, terrain trace, altimeter and radar altimeter." SACRs 51-52 and 51-135, Volume VI, entitled "AIRCREW AND AIRCRAFT OPERATIONAL LIMITATIONS/RESTRICTIONS" isn't just for pilots — it is for all aircrew members. **SAFETY** of flight is the responsibility of all crewmembers!

You may be asking yourself right about now, how can I find the time to read all the regulations and manuals that apply to me? Well, the answer to this question isn't an easy one. As SAC crewmembers, we spend a fair amount of time on alert. While on alert, many crewmembers have a tendency to take the easy way out. By this I mean we tend to play cards,

“By looking up the answer, you can be sure of it being correct and as a result you will FLY SAFER.”

racquetball, watch movies and television, and in general, we do anything we can think of to get out of studying regs and manuals. I'm sure that each of us could find 30 minutes to an hour a week to look through such regulations as AFRs 60-1, 60-16, the SAC supplements there to and all of the training regulations, just to name a few. If for some reason you can't find the time on alert, how about during mission planning? Sometimes you might have a few minutes after you're done with paperwork before the actual briefing starts. This might be a good time to take a look at SACR 50-12, Part II, Chapter 11, which governs mission planning. Also, don't forget that during mission planning we are required to check our publications and technical data for currency.

If you're like I am, reading regulations and manuals tends to put you to sleep. Then maybe there is another way to increase our knowledge level in this area. Another solution would be to have training flight develop a few 20 to 25 question open book tests that you could take during your alert tours. My point is this: There is a multitude of ways that you can approach the problem. You, the crewmember, must come up with the technique that will ensure you have the knowledge to fly SAFE.

For each hour that we spend on regs and manuals it will make us that much more valuable to the command and your unit. After you have reviewed these regulations, don't be afraid to say, "Hey, did you know this?" If you get some "No" answers then show them where the information can be found. If by chance you notice that a regulation has changed, don't keep the information a secret,

tell everyone. Can you think of an individual who has said that AFRs 60-1 and 60-16 were nothing more than "gee whiz" books? If you can, then this is one person you would definitely want to stay away from. This is also a good indication of a crewmember that is going noplacé, and is of no value to the value to the flying profession.

Now, whose responsibility is it to insure we maintain our currency in regs and manuals? The pilot's, scheduling, training flight, or maybe your flight commander? No. Quite simply the responsibility clearly lies with you and me, the flying crewmember.

On a very rare occasion at CFIC we get candidates who have little or no idea what regulations govern basic crewmember knowledge such as crew rest or oxygen requirements. When questioned about their lack of knowledge, we get such replies as "I'm here for you to teach me all about these regulations." This is a weak excuse at best and a good indication of a very lazy crewmember. Your three to five week stay at CFIC isn't the time to start learning the contents of regulations. The time to start learning about regulations and manuals is when you're a CCTS student at Castle and it should continue throughout your flying career.

To help improve the efficiency and the safety record of the command, we must increase our knowledge of the regulations and manuals that tell us how to do our job. Know what's in them, and you'll undoubtedly fly safer. Or, if you rely on "hear say information," you could be making a grave mistake.



FLY THE AIRCRAFT!

**“STAY ALIVE
IN 85”**

**“KEEP SAFETY
FIRST”**



PROFESSIONAL



Aircraft Maintenance

TSgt Dale R. Webster, 340 CAMS, Altus AFB, is SAC Maintenance Airman of the Month. As assistant superintendent for the Field Maintenance Branch, Sgt Webster is a key supervisor responsible for the production efforts of approximately 116 personnel in 13 diverse AFSCs and 16 major work centers. He is involved in every facet of the maintenance effort from supervising aircraft launches to directing repair of heavy maintenance aircraft. Sgt Webster continuously seeks improved methods to increase the quality of maintenance in the Field Maintenance Branch. Among them is a chart he developed and instituted for tracking supervisory level followup actions on AFTO Forms 349.



Missile Maintenance

Sgt Preston C. Stafford, 91 SMW, Missile Electrical Branch, Minot AFB, is SAC's ICBM Missile Maintenance Airman of the Month. Sgt Stafford has repeatedly demonstrated his outstanding capabilities. His evaluation performance has been outstanding: he has earned nine "highly qualified" and 30 "qualified" ratings from unit and command evaluators. He assisted in developing and implementing Missile Code Handling self-study and recognition programs in his branch. His efforts contributed directly to the 100% testing pass rate his branch achieved during the SAC IG visit.

Sgt Stafford is recognized as a top ICBM maintainer. He was a member of the lead team during the code change at 165 wing ICBM launch and launch control facilities. Sgt Stafford prevented the replacement of a launch facility (LF) motor-generator and an LF battery set by employing his outstanding troubleshooting skills; this resulted in a \$50,000 savings in materials alone. Sgt Stafford's technical skills led to his selection as a team member supporting an ICBM Operations, Test and Evaluation launch from Vandenberg AFB.



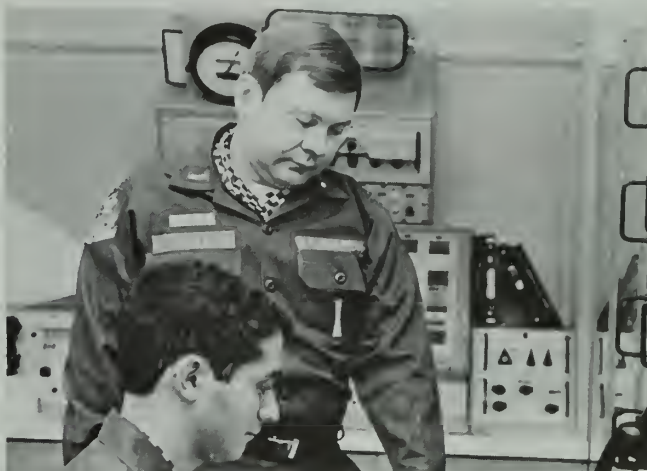
PERFORMERS

Missile Crew

The 91 SMW, Crew R-073, 1Lt Michael V. Boren, MCCC, and 2Lt Bruce E. Neslin, DMCCC, is SAC's Missile Crew of the Month. While enroute to assume their alert commitments at Golf LCC, Crew R-073 encountered the scene of an accident involving two vehicles and four injured personnel. The crew immediately surveyed the area to determine what priority actions were appropriate and what emergency first aid was required for a severely injured civilian. A total of two civilians and two military (flight security) personnel were involved.

1Lt Boren contacted Golf 01 flight security controller and the on duty combat crew for assistance in relaying the required contingency checklist data to the wing command post and wing security control. Simultaneously, 2Lt Neslin, while maintaining strict control over a variety of classified materials, compiled all available information at the accident scene. Multiple ambulance response was requested and the command post dispatched one helicopter with medical personnel aboard. Concise, updated observations on the medical condition of the injured personnel were continually provided to all support agencies.

Crew R-073 made repeated attempts to provide first aid and comfort for the injured accident victims. Then Lt Boren began to notice the apparent loss of consciousness by the flight security supervisor. He coordinated with wing security to allow members of the Golf Alarm Response Team (ART) to assist in destruction



of classified material in the possession of the flight security personnel. A loss of consciousness did occur and those actions prevented possible compromise of sensitive materials. Upon arrival of a first and then second helicopter with a flight surgeon aboard, the crew provided an immediate briefing to all arriving personnel. Both military personnel were placed aboard the helicopter and each civilian was transported via ambulance without delay. Crew R-073 remained at the scene to assist in coordination of the efforts of civilian and military safety and investigative agencies. With all coordination efforts completed, Crew R-073 proceeded to Golf 01 to take command of their assigned flight.

Their prompt coordination with all appropriate agencies and the correct utilization of their technical data ensured the completion of all faults and security requirements in a superb fashion.

Flying Crew

Crew S-11, consisting of Capt Russel J. Danwin, AC; Capt Salvatore T. Battetta, CP; Capt Richard G. Miles, RN; 1Lt John J. Dixon, N; 1Lt Gregg B. Bourke, EW; and SSgt Michael H. Weinmann, AC; 416 BMW, Griffiss AFB, is SAC's Flying Crew of the Month.

Recently Capt Danwin and crew began a heavyweight takeoff as lead in a two-ship B-52G MITO. During takeoff roll, the number seven engine cycled in and out of water injection and then lost water altogether. Since a high ground speed had been attained, the decision was made to continue and the number seven throttle was advanced to the appropriate dry EPR setting. At 120 KIAS, water was lost on the number eight engine. Capt Danwin countered the asymmetric thrust with rudder and continued. At rotation speed, water was lost on engine pods one and three with a noticeable loss of thrust. With water injection working only on the number two pod, the crew quickly assessed their performance degradation and maintained aircraft control by immediately decreasing heading to avoid the lead air-

craft. Capt Danwin directed the crew to accomplish the proper procedures for the loss of water and remained in ground effect to stabilize the airspeed. As the airspeed slowly crept up, Capt Danwin began a shallow climb to attain a safe altitude before water ran out on a number two pod. Performance eventually increased and the cell rejoined for an uneventful mission. A thorough preflight briefing conducted by Capt Danwin which highlighted takeoff emergency procedures helped avert a possible aircraft disaster. The crew was well prepared for this emergency and through Capt Danwin's leadership, quickly analyzed and recovered from a dangerous situation.





Do You Know What to Do?

The bell goes off with such ferocity you cover your ears. Like everyone else who has been through it a hundred times, you file out of the building. It's "only" a fire alarm drill. You greet friends, make a date for lunch and return to your office, thankful for the brief break.

Now you're at home. It's one in the morning. Your smoke detector goes off; the fire alarm at work sounds mild by comparison. Do you know what to do? Where to go?

Every ship, air base, warehouse, motor pool and admin office has a prescribed fire escape plan. There's even a fire plan for the crew of an Army tank. You're required to know the fire plans for your duty station, but what are your plans if a fire

breaks out in your own home, apartment, or base housing?

The National Safety Council encourages all families to prepare for a fire before it occurs. It can lessen confusion, reduce panic and save lives.

First, decide how everyone would get out of the house. The Council says there should be at least two emergency escape routes from each room. If doors are blocked by smoke or flames, you might have to exit through a window. Will the screens come off? Can a child break the window and then get through the screen?

Second, run a fire drill. When everyone least expects it, yell "FIRE" and evacuate your home. Critically evaluate how everything went.

SAC'S FLYING SAFETY RECORD

CLASS A FLIGHT MISHAPS

YEAR	74	75	76	77	78	79	80	81	82	83	84
TOTAL MISHAPS	8	4	4	4	4	5	4	4	2	2	2
FLYING HOURS 100,000	5.1	4.2	3.9	3.7	3.6	3.6	3.4	3.5	3.5	3.0	2.8
FATALITIES	14	7	22	10	5	7	2	14	9	7	2
RATE	1.6	1.0	1.0	1.1	.28	1.4	1.2	1.2	.58	.65	.65

* ESTIMATE RATE BASED ON 310,000 FLYING HOURS

8AF	15AF
4	
2	
0	

1984 CLASS A MISHAPS	
TR-1 B-52G	JULY OCT

CLASS B	
OCT	1
1984	4
CLASS C	
OCT	23
1984	212

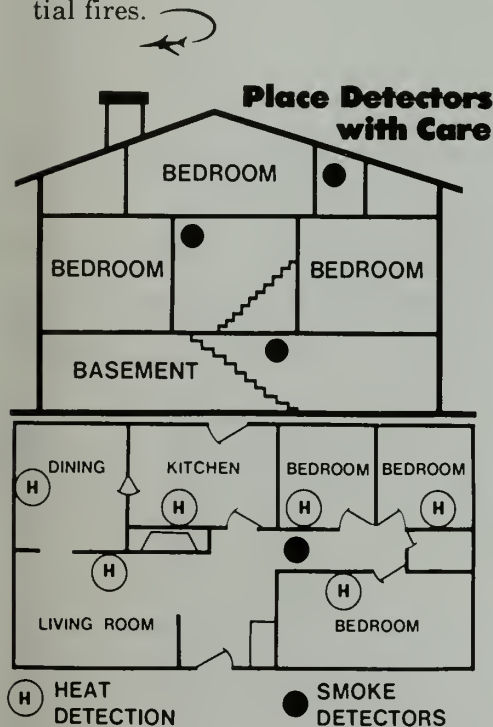
FLYING HOURS	
OCT	29,168
1984	283,554

Learn from your mistakes. Convince your kids or roommates that it isn't a game, because in case of a real fire everyone has to do everything right. And remember, in a real fire situation, stay out of the house once you have escaped. Call the fire department from a neighbor's telephone.

Finally, agree on a meeting place outside the home. During an actual fire, this lets you take a head count quickly so you can determine if anyone is missing.

The NSC also recommends the following procedures to avoid a fire emergency:

- Install smoke detectors high on walls or on ceilings. They should be placed on all levels of your home, preferably near bedrooms and stairs.
- Keep matches away from children. About 20 percent of all home fire victims are under 14.
- Check your central heating system. Air filters should be changed or cleaned when dirty. Heating equipment is the leading cause of residential fires.



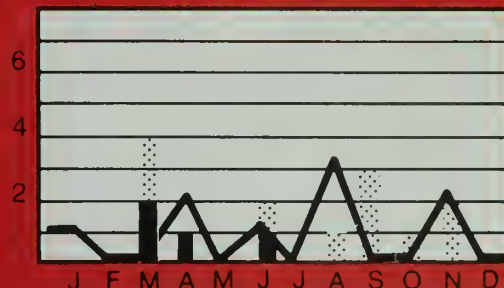
(Top) This cutaway view of a two-story house and basement illustrates proper location of smoke detectors when there are bedrooms on several levels. A detector on the basement stairway also is recommended.

(Bottom) This floor plan of a six-room, single level house illustrates the difference in protection offered by heat and smoke detectors. A heat detector would be needed in each room for proper protection. One smoke detector can provide the same protection.

1984

MISSILE MISHAPS

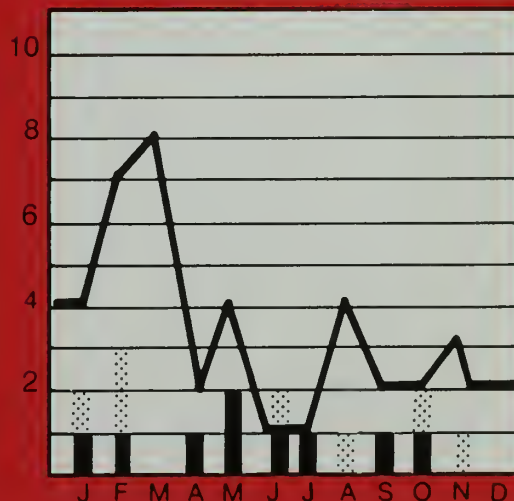
TITAN



AIR LAUNCH MISSILE



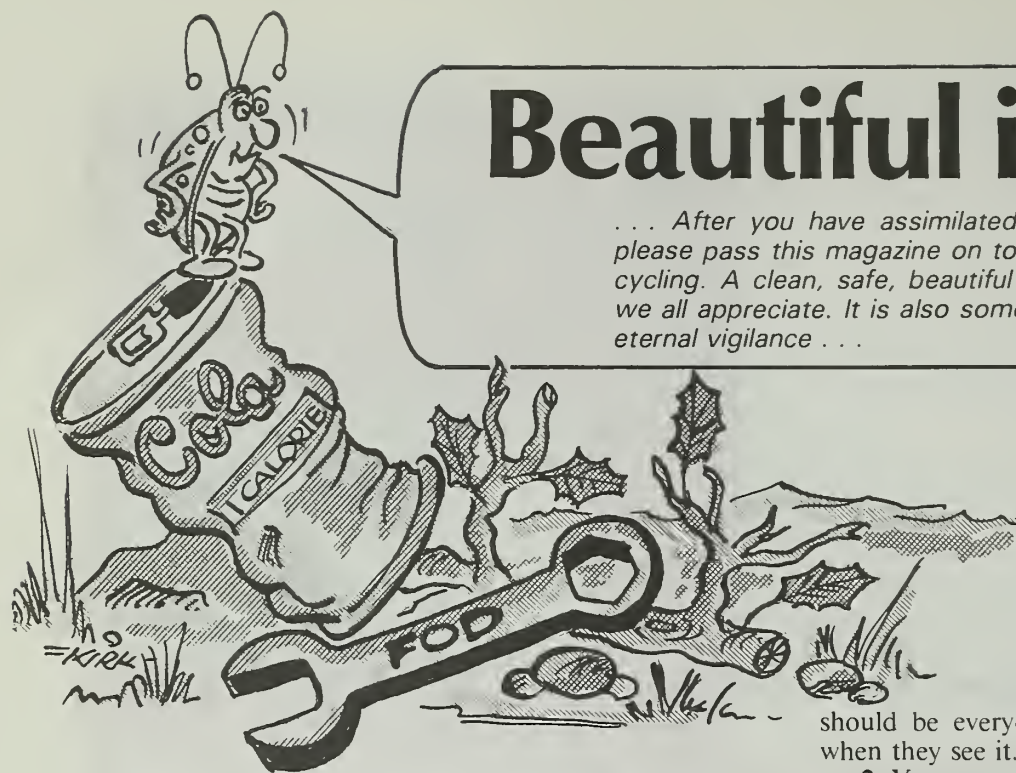
MINUTEMAN



PERSONNEL
ERROR

NON PERSONNEL
ERROR

TOTAL MISHAPS
1983



Beautiful is Safer

... After you have assimilated the bottom lines, please pass this magazine on to a friend before re-cycling. A clean, safe, beautiful base is something we all appreciate. It is also something that requires eternal vigilance . . .

Col Rich Pilmer
ARRS/SG, Scott AFB

The heart of an air force base is its flight line. Journey on major arteries to the brain of the place, and you are at headquarters. Just look for that flag! Usually these two areas are the sharpest, neatest and most carefully maintained sites on the entire installation. This is true for reasons of pride, professionalism, readiness and safety. If we were able, with an eagle's eyes, to look in upon these locations on one base at some place in the air force, it might be possible, on an off-day, to discern an accidentally dropped wrench on the ramp. And perhaps, a single windblown beverage can on the grass in front of headquarters.

Of course, any passer-by would dart for that wrench and pick it up. F.O.D.! The hazard of foreign objects to aircraft has been well advertised in recent years. The can also would eventually be retrieved, but probably not with the same gusto as the consumer of its contents or necessarily by the first person to see it. More likely it would be collected in by a grounds custodian or a youngster earning a few summer dollars by recycling the aluminum litter of others.

So get to the point, you are thinking, "What does all this have to do with safety?"

In a new edition of **Environmental Psychology**, by Fisher, Bell, and Baum (New York: Holt, 1984) they deal in considerable detail with research that has been accomplished in the realm of education, attitudes, motivation and behavior related to prevention of littering. Their conclusions stem from review of many individual studies and have the potential for contributing to Air Force antilittering and anti FOD programs. Here are some highlights:

1. "Planted trash" in an open area will not be picked up by 95% of an average population. 94% of this same group had previously endorsed the statement: "It

should be everyone's responsibility to pick up litter when they see it."

2. Young people litter more than older ones; males more than females; people alone more than those in groups.

3. Anti-litter education is, however, most successful with young children who have not yet established habits.

4. Signs or other prompts are most effective when they are specific: i.e., "Please place cans here," is better than "Don't litter this walkway."

5. For general appeals, "Please don't litter," is significantly more effective than "Don't you dare litter," or "You will not litter."

Threats elicit reactance, sometimes prompting people to do what is hoped they will avoid.

6. Physical presence of an environmentally constructive alternative is better than an isolated sign. For example, well placed trash receptacles are more effective than signs.

7. Positive reinforcement, (as is also true in educational settings) is deemed better than negative reinforcement or threats and fines. The current aluminum can recycling programs seem to illustrate this point. People respond more favorably to economic rewards for their efforts than to apprehension and fines.

8. Novel trash collecting devices are sometimes effective. Clemson University kept their stadium parking area cleaner by installing receptacles in the shape of student hats that said "Thank you," when trash was deposited.

9. Littering escalates if an area is allowed to start a downhill course.

10. Litter on the flight line, as elsewhere on the base or community, is preventable. Litter has caused costly accidents in both locales.

In conclusion, litter consciousness, like safety consciousness, is a state of mind. It needs constant reinforcement to keep our world a cleaner, safer place.



The SAC Safety Screen is an honor roll of SAC's most professional crews. To gain listing on the Screen, crew members must be nominated by their unit commanders and meet high selection criteria of experience in their aircraft or missile system IAW AFR 127-2/SS1.

23 BMS, Minot Crew R-23: P Capt David J Maher, ICP 1Lt Michael T Hutto, RN Capt Gerald J Madigan, N 1Lt Herbert N Fuller, IEW Capt Alfred Sanchez, EWO 2Lt William D Glubiak, AG TSgt John C Marsden

23 BMS, Minot Crew E-35: IP Capt Robert H Byzewski, ICP Capt Charles R Pire, IRN Capt Kenneth L Charpie, N 2Lt Michael J Oar, EWO 1Lt Dennis P Kaszynaki, AG SSgt Harry Rogers

93 BMW, CFIC Crew IT-50: IP Maj Jack Richard, IRN Capt Greg Melton, IEW Capt John Remisousky, IAG MSgt Mike Rook

328 BMS/CFIC Crew IT-25: IP Capt Ronald Alderman IRN Capt Richard Evans, IEW Capt Kurt Heinz, IAG TSgt Aaron Erickson

93 AREFS, Castle Crew IT-77: IP — Maj Lou Descoteaux, ICP Capt Al Lovejoy, IBO SSgt Darnell Butler

924 AREFS, Castle Crew E-103: IP Capt Matt Williams, CP 1Lt Lynn Coehoorn, N Capt Scott McMullen, BO Sgt Randy Johnson

24 SRS, Eielson Crew E-05: IP Capt Laurence F Stone, CP Capt James D Parsons, N-1 Capt David A Patterson, N-2 1Lt Calvin J Romrell

24 SRS, Eielson Crew E-16: TC Capt James L Small, RL Capt Robert C Macy, R2 1Lt Gregg A Garrison, R4 1Lt Willaim L Tomson, MT Capt Lyndon G Willms, PT SSgt William D Pickle, ET SMSgt Josep W Forge

126 AREFW, Chicago-O'Hare (ILANG): P Col Morris A Weaver, CP Capt Gerald E Lewis, N Capt Richard W Gungel, BO TSgt Leslie G Struck

190 AREFG, Forbes (KSANG): P Maj Duane E Woerth, CP Maj Kevin J Sweeney, N Lt Col Gary L Albright, BO CMSgt Augustine J Parsel, Jr

308 SMW, Little Rock Crew S-203: MCCC 1Lt Thomas L Peltier, DMCCC 1 Lt David C Gilson, MSAT SSgt Rodney L Holder, MFT TSgt Stephen V Hochmuth

321 SMW, Grand Forks Crew R-124: MCCC Capt Charles J Hinton, DMCCC 1Lt Michael R Berry

381 SMW, McConnell Crew E-181: MCCC 1Lt Jeffery Davis, DMCCC 1Lt Kenneth Dallaire, MSAT A1C Mark Massey, MFT A1C Russell Dyer

341 SMW, Malmstrom Crew E-094: MCCC Capt Randy Rees, DMCCC 2Lt Keith R Brynes



FLARE

**“STAY ALIVE
IN 85—
KEEP SAFETY
FIRST”**

